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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,585	04/08/2004	Juan Inga	41290-0030USPT	8148

51738 7590 09/09/2005

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HOUSTON, TX 77002-2716

EXAMINER
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PARSA, JAFAR F

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,585

Applicant(s)

INGA, JUAN

Examiner

Jafar Parsa

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Beck et al (USPN 6,794,471) B2.

Applicant claimed invention relates to a process to remove N-contaminants from a syngas stream comprising the steps of:

- (a) introducing a syngas stream and a water stream into a first absorber;
- (b) recovering a first-washed syngas stream overhead from the first absorber;
- (c) introducing the first-washed syngas stream and a Fischer-Tropsch produced water stream into a second absorber; and
- (d) recovering a second-washed syngas stream overhead from the second absorber.

O'Beck teaches that the synthesis gas exiting from autothermal reformer 62 will often contain various contaminants such as ammonia, hydrogen cyanide, other nitrogen based compounds and various contaminants associated with the natural gas stream. These contaminants may be harmful with respect to the Fischer-Tropsch catalyst (not expressly shown) contained within Fischer-Tropsch reactor 90 (see col. 7, lines 30-36).

O'Beck teaches that synthesis gas water wash column 70 and water stripping column 100 cooperate with each other to assist in removing a substantial quantity of undesired contaminants contained in the synthesis gas exiting from autothermal reformer 60. Synthesis gas water wash column 70 and water stripping column 100 also cooperate with each other to assist in removing a substantial quantity of undesirable contaminants which may be contained within water produced by the associated Fischer-Tropsch's process. Synthesis gas water wash column 70 may be generally described as a "packed column." Conduit 62 preferably directs synthesis gas from autothermal reformer 60 to enter at or near the bottom of synthesis gas water wash column 70. Water from conduit 72 preferably enters at or near the top of synthesis gas water wash column 70 and is sprayed over the packing (not expressly shown) contained therein. The general fluid flow paths within synthesis gas water wash column 70 may be described as an upward flow of synthesis gas and a counter current or downward flow of sprayed water. The counter current flow in cooperation with the packing results in the water removing or scrubbing contaminants such as ammonia, hydrogen cyanide, various nitrogen based compounds and other contaminants from the synthesis gas (see col. 7, lines 45-67).

O'Beck teaches that Water produced by the Fischer-Tropsch process is preferably separated from other Fischer-Tropsch products and directed to the synthesis gas water wash column to remove undesired contaminants from synthesis gas prior to entering the Fischer-Tropsch reactor. Contaminated water from the synthesis gas water wash column is preferably directed to the water stripping column. Suitable fluids such as steam and/or tail gas are preferably supplied to the water stripping column for use in removing gases, soluble compounds, and other undesired contaminants from the contaminated water. A stream of contaminated steam is preferably directed from the water stripping column to a combustion chamber of at least one of the gas turbines. The stripped water is preferably directed to a disposal facility and/or may be recycled for use in the synthesis gas water wash column (see col. 2, lines 50-67). The synthesis gas is generated in the presence of oxygen, and then synthesis gas is reacted in the presence of a cobalt supported by silica, alumina or silica alumina materials to produce Fischer-Tropsch products (see col. 2, lines 9-11 and col. 8, lines 34-45).

The difference between O'Beck and the claimed invention is that the instant claims require introducing the first washed syngas stream and a Fischer-Tropsch produced water stream into a second absorber. However, O'Beck recognizes that nitrogen containing compounds are harmful with respect to the Fischer-Tropsch catalyst contained within Fischer-Tropsch reactor (see col. 7, lines 30-36). Therefore, synthesis gas water wash column 70 and water stripping column 100 cooperate with each other to assist in removing a substantial quantity of undesired contaminants contained in the synthesis gas exiting from autothermal reformer 60. It would therefore would have been

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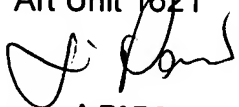
obvious to one of ordinary skill in the art at the time the invention was made to further remove the nitrogen containing compounds from synthesis gas by running it through a second absorber in order to obtain a synthesis gas free of contaminants, which does not deactivate the Fischer-Tropsch synthesis catalyst.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jafar Parsa whose telephone number is (571)272-0643. The examiner can normally be reached on 8 a.m.-4:30 p.m. (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP

Jafar Parsa  
Primary Examiner  
Art Unit 1621  
  
**J. PARSA**  
**PRIMARY EXAMINER**